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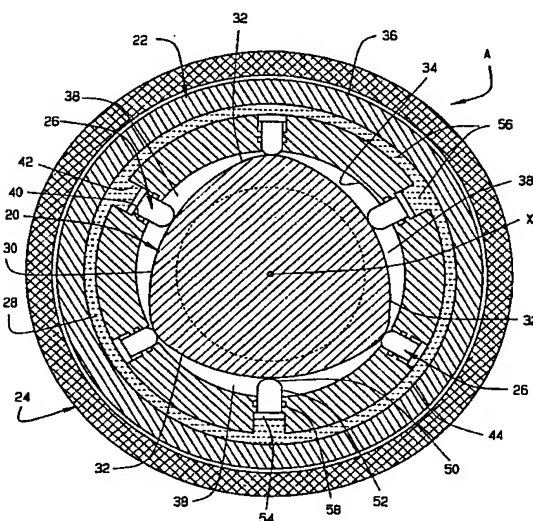
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- (71) Applicant (for all designated States except US): **THE TIMKEN COMPANY** [US/US]; 1835 DUEBER AVENUE S.W., CANTON, OH 44706 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **GRADU, Mircea** [US/US]; 1109 GREENSVIEW DRIVE, WOOSTER, OH 44691 (US).
- (74) Agent: **BOESCHENSTEIN, Edward A.**; Polster, Lieder, Woodruff & Lucchesi, L.C., 12412 Powerscourt Drive, Suite 200, St. Louis, MO 63131-3615 (US).
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(54) Title: CLUTCH HAVING A VARIABLE VISCOSITY FLUID



(57) **Abstract:** A clutch (A,B) includes a cam (20,70) and a rotor (22,74), both of which revolve around a common axis (X). The cam has a camming surface (30,72) provided with lobes (32), whereas the rotor carries pistons (26,80) which bear against the camming surface of the cam. The pistons project from piston cavities (40,42; 76) in the rotor and those cavities communicate through a connecting cavity (44,78), to thereby form a fluid chamber (56,82) of constant volume which contains a magneto-rheological fluid (28,84). An electrical coil controls the viscosity of the rheological fluid. When the viscosity is low, the pistons will move inwardly and outwardly on the rotor as the camming surface passes over them and no torque will transfer between the cam and rotor. However, when the fluid is viscous, the fluid will impede displacement of the pistons in the piston cavities, and the pistons will grip the camming surface sufficiently to enable torque to transfer between the cam and rotor.